From: Jay Lund

Sent: Friday, March 25, 2005 8:24 AM

To: Ken Kirby

**Cc:** Dabbs, Paul; Guivetchi, Kamyar **Subject:** Chapter 4 comments

## Ken.

Chapter 4 is getting better. I have some suggestions for improvement. Alas, I wish I had more time to work it over. The chapter has some good elements, but I'm not quite sure how to better put them together. It suffers from being something of a miscellany chapter, although the overall structure is not bad for this role.

Some text suggestions and remarks appear below the signature for a few sections. Some comments are marked on paper that I can drop by your house.

In the beginning, it might be useful to indicate how each local and regional water system requires good and consistent data and analytical tools to make effective and efficient policy, planning, and operating decisions. Some examples where such analysis is useful, such as treatment plant and pipeline sizing, water conservation planning, water contract negotiation, and water market participation, might be useful. If a theme of the document is that local and regional folks will be taking more initiative, then the statewide analysis should contribute to this scale of initiative. One point might be that consistent numbers is useful for such things as 1) fair funding allocations from state subsidies and revolving funds and 2) providing a more consistent and defensible basis for administrative and judicial judgments on local planning and policy issues (such as those involving CEQA, Kuel bill, etc.).

Of course, I think the planning theory part is particularly important to get right and communicate well (and concisely) – but this is tough. A flow diagram on the planning process might be very helpful. Figure 4-1 is quite useful for an oral presentation, but it probably has too many arrows going everywhere for an effective written presentation of the mostly sequential nature of planning processes in theory. I might tinker on this some more.

Having a more proactive DWR analytical plan would certainly make it easier to strengthen this chapter. I'd like to encourage Kamyar to get some early discussions going on how to put together (and support) his PIE. This PIE idea is very important, but will take some time to get the concepts right, then more time to get the organizations and support right. The nice thing is that some likely elements of PIE lie within the DPLA shop, so it should be possible to make near-term progress. Someone needs to be responsible for making something happen.

I hope this is helpful, and I wish it were more so.

Best wishes, Jay Jay R. Lund, Professor Dept. of Civil and Environmental Engineering University of California, Davis Davis, CA 95616, USA

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## p. 4-6-Insert A: Here is some proposed text which is a little more detailed planning process and description; maybe it is better.

A formal planning process includes the following steps:

- 1. Problem identification
- 2. Specifying objectives What are desirable performance characteristics for a plan to address the problem?
- 3. Describe the relevant system. What do we already know about the problem and potential solutions? In particular, how is the problem likely to change in the future relevant to the time-frame of the plan?
- 4. Identify a range of solution options and alternatives. What are promising approaches to addressing the problem in the future?
- 5. Evaluate and compare promising solutions in terms of their performance on specified objectives.
- 6. Interpret the results of the evaluation with the limitations of the analysis in mind.
- 7. Make decisions. Select actions that appear to be "best" for solving the problem.

It is very common for thinking and discussions in the course of following this procedure to result in improved specifications of alternatives, new or hybrid promising alternatives, or improvements in understanding of the system (and problem). Thus, another byproduct of this planning process is considerable learning and discussion about the problem and solutions. In this formal procedure, explicitly specifying objectives (step 2), identifying a range of promising solutions (step 4), and evaluating and comparing the performance of each solution in terms of the specified objectives provide a rational basis for the resulting plan.

[This will entail some re-write of the paragraphs following.]

## p. 8-17.

I would re-title this section "Partial Application of New Approach", as the work is not nearly a complete representation of "the new approach."

This section is replete with references to "water demands", when it really means "water use quantities" or "water use". Many of us have pled, and we thought gained agreement to, more precise language regarding water demands and use. Enough people make this objection, so I'm pretty sure there will be comments on the zero-dimensional view of "demands" presented here, particularly if these use quantities are referred to as "demands". For example, p. 14, for environmental use, we have "unmet environmental water objectives" (Table 4-4), but in the previous table we have "Scenario factors

affecting agricultural water demand". Why the difference in terminology? Perhaps "Scenario factors affecting agricultural water delivery objectives" or "... water use".

Along the lines of my earlier comments, there will be objections to the absence of economic presentations or discussion of water demands/uses. This analysis does not move us forward from B160-98 one inch in this regard. It perpetuates benighted practice and the reversion to "gap" analysis.